

ABSTRACT

A map holding unit ~~(89)~~ holds, in the form of a map, a voltage control amount ~~(V_{q_map})~~ of the q axis in a case where no demagnetization of a permanent magnet motor ~~(60)~~ occurs. Based on a motor revolution number, namely the number of revolutions of the motor ~~(MRN)~~ provided from a revolution number detection unit ~~(81)~~, a demagnetized state calculation unit ~~(91)~~ calculates a rotational angular velocity ~~(ω)~~. Then, based on the voltage control amount ~~(V_{q_map})~~ from the map holding unit ~~(89)~~, a voltage control amount ~~(V_q)~~ to be controlled that is provided from a PI control unit ~~(86)~~ and the rotational angular velocity ~~(ω)~~, the demagnetized state calculation unit ~~(91)~~ calculates an amount of demagnetization ~~($= (V_{q_map} - V_q) / \omega$)~~ and outputs, if the amount of demagnetization is greater than a predetermined value, an operation signal ~~(OPE)~~ for controlling the operation of the permanent magnet motor ~~(60)~~.